

FOUR NEW SPECIES OF *IPOMOEA* L. (CONVOLVULACEAE) FROM AUSTRALIA

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Summary

Four species, *Ipomoea antonschmidii*, *I. argillicola*, *I. polpha* and *I. saintronanensis* are described as new.

This paper is a precursor to a revision of the genus *Ipomoea* in Australia. Because of the economic interest in two of the undescribed species, publication of their names prior to the revision is considered necessary.

Ipomoea antonschmidii R.W. Johnson, **sp. nov.** affinis *I. velutina* R.Br., sed sepalis ovato-lanceolatis, acutatis, dense hirsutis. **Typus:** Queensland, Burke District: 5 km south-west of Lake Julius pump station, 19 Jan 1984, *A. Schmid* 756 (holotypus BRI 336512).

Planta perennis. Caules repentes, herbacei, dense hirsuti; pili simplices vel bifurcati. Folia simplicia; lamina ovata, acuta vel obtusa, mucronata, cordata, 5-9 cm longa, 3.5-7.5 cm lata, utrinque dense hirsuta; petiolus 2.5-5 cm longus. Inflorescentia axillaris, cymosa; pedunculus 2-5.5 cm longus, 1-3-floribus; bractae persistentes, subulatae ad peranguste ellipticae, 1-2 cm longae; pedicelli 5-15 mm longi, glandibus distalibus. Sepala exteriora ovata, acuminata ad lanceolata, acuta, 18-21 mm longa, dense hirsuta, 5-nervis elevatis longitudinalibus. Corolla infundibuliformis, purpurea, fauce saturatiore, 5-6 cm longa, glabra, limbus 5-6 cm latus. Stamina 5; filamenta inaequalia, 17-27 mm longa, 10-12 mm supra basin corollae inserta. Ovarium ovoideum, 2-loculare; stylus 35-40 mm longus. Capsula globoso-ovoidea, base styli persistenti, 2-loculare, ca 10 mm alta. Semina 4, ca 5 mm longa, modice ad dense pubescentes, caespite longorum pilorum ad hilum.

Perennial plant. Stems trailing, herbaceous, densely hirsute; hairs simple or bifurcate. Leaves simple; blade ovate, acute or obtuse, mucronate, cordate, 5-9 cm long, 3.5-7.5 cm broad, densely hirsute on both sides; petiole 2.5-5 cm long. Inflorescence axillary, cymose; peduncle 2-5.5 cm long, 1-3-flowered; bracts persistent, subulate to very narrowly elliptic, 1-2 cm long; pedicels 5-15 mm long, bearing glands at the distal end. Outer sepals ovate, acuminate to lanceolate, acute, 18-21 mm long, densely hirsute, with 5 raised longitudinal veins; inner sepals of equal length but broader. Corolla funnel-shaped, purple with a darker throat, glabrous, 5-6 cm long, limb 5-6 cm broad. Stamens 5; filaments unequal, 17-27 mm long, affixed 10-12 mm above the base of the corolla. Ovary ovoid, 2-locular; style 35-40 mm long. Capsule globular-ovoid with a persistent style base, 2-locular, ca 10 mm high. Seeds 4, ca 5 mm long, moderately to densely pubescent with a tuft of long hairs at the hilum. **Fig. 1.**

Queensland (all BRI). BURKE DISTRICT: Ca 5 km SW of Lake Julius Pump Station on pipeline road, Feb 1978, *Schmid* AS430; Jan 1984, *Schmid* 756.

This species is currently known only from a restricted area SW of Lake Julius Dam, NNE of Mt Isa, where it grows on shallow, red, stoney soils in *Eucalyptus leucophloia* woodland. It is not known to occur in any areas protected by statute.

Etymology: The species is named in honour of Mr Anton Schmid who first brought it to my notice and who provided me with ample material for study.

Ipomoea argillicola R.W. Johnson, **sp. nov.** affinis *I. muelleri* Benth. sed pedunculis et pedicellis longioribus et corollis magnis. **Typus:** Queensland, Leichhardt District: 1 mile west of Emerald, 17 Feb 1960, *R.W. Johnson* 1321 (holotypus BRI 030678).

Perennis, radice tuberanti. Caules repentes, herbacei, glabri. Folia simplicia; lamina late ovata ad fere reniformis, obtusa, emarginata, mucronulata, cordata ad truncata, 3-12 cm longa et lata; petiolus 2-20 cm longus, lamina plerumque longior, glandibus prominentibus distalibus. Inflorescentia axillaris, cymosa; pedunculus 3-15 cm longus, 1-7-

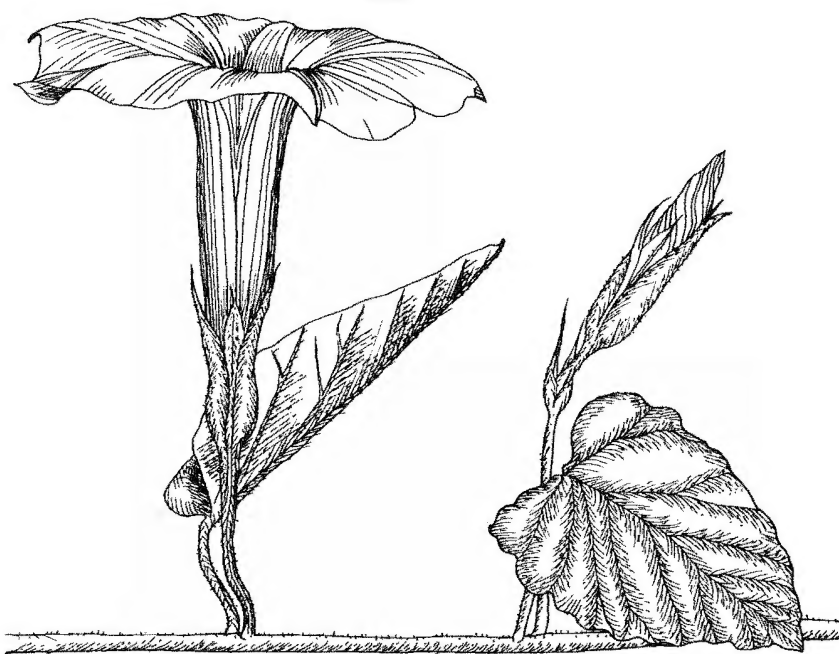


Fig. 1. *Ipomoea antonschmidii*: habit with inflorescence (Schmid 756) \times 1.

floribus; bracteae paribus oppositis, triangulae, acutae, 2–15 mm longae; pedicelli 1.5–11 cm longi, glandibus prominentibus distalibus. Sepala exteriora ovata ad ovato-oblonga, obtusi-acuta ad obtusa, mucrone prominenti recurvo, 11–22 mm longa, 5–10 mm lata, nervis 3–5, elevatis, longitudinalibus, \pm tuberculatis in dimidio inferiore; interiora ovata, longitudine exteriora aequantes. Corolla infundibuliformis, alba ad lilacina, fauce purpurea, 4–6 cm longa, limbus 4–5 cm latus, taeniae meso-petalinae acuminibus prominentibus. Stamina 5; filamenta inaequalia, 14–22 mm longa, 6–9 mm supra basin corollae inserta. Ovarium ovoideum 2-loculare; stylus 17–23 mm longus. Capsula ovoidea ad depresso-globulosa base styli persistenti, 2-locularis, 10–16 mm alta. Semina 4, dense pubescentes, 8–8.5 mm longa.

Perennial with a tuberous root. Stems trailing, herbaceous, glabrous. Leaves simple; blade broadly ovate to almost reniform, obtuse, emarginate, mucronulate, cordate to truncate, 3–12 cm long and wide; petiole 2–20 cm long, usually longer than the blade with prominent glands at the distal end. Inflorescence axillary, cymose; peduncle 3–15 cm long, bearing 1–7 flowers; bracts in opposite pairs, triangular, acute, 2–15 mm long; pedicels 1.5–11 cm, with prominent glands at the base of the calyx. Outer sepals ovate to ovate-oblong with 3–5 raised longitudinal nerves, \pm tuberculate on the lower half, bluntly acute to obtuse, with a prominent recurved mucro, 11–22 mm long, 5–10 mm broad; inner sepals ovate, equalling the outer in length. Corolla funnel-shaped, white to pale violet, with a purplish throat, 4–8 cm long, limb 4–5 cm diameter, mid-petaline bands projected into a prominent acumen. Stamens 5; filaments unequal, 14–22 mm long, affixed 6–9 mm above the base of the corolla. Ovary ovoid, 2-locular; style 17–23 mm long. Capsule ovoid to depressed-globular with a persistent style base, 2-locular, 10–16 mm high. Seeds 4, densely pubescent, 8–8.5 mm long. Fig. 2.

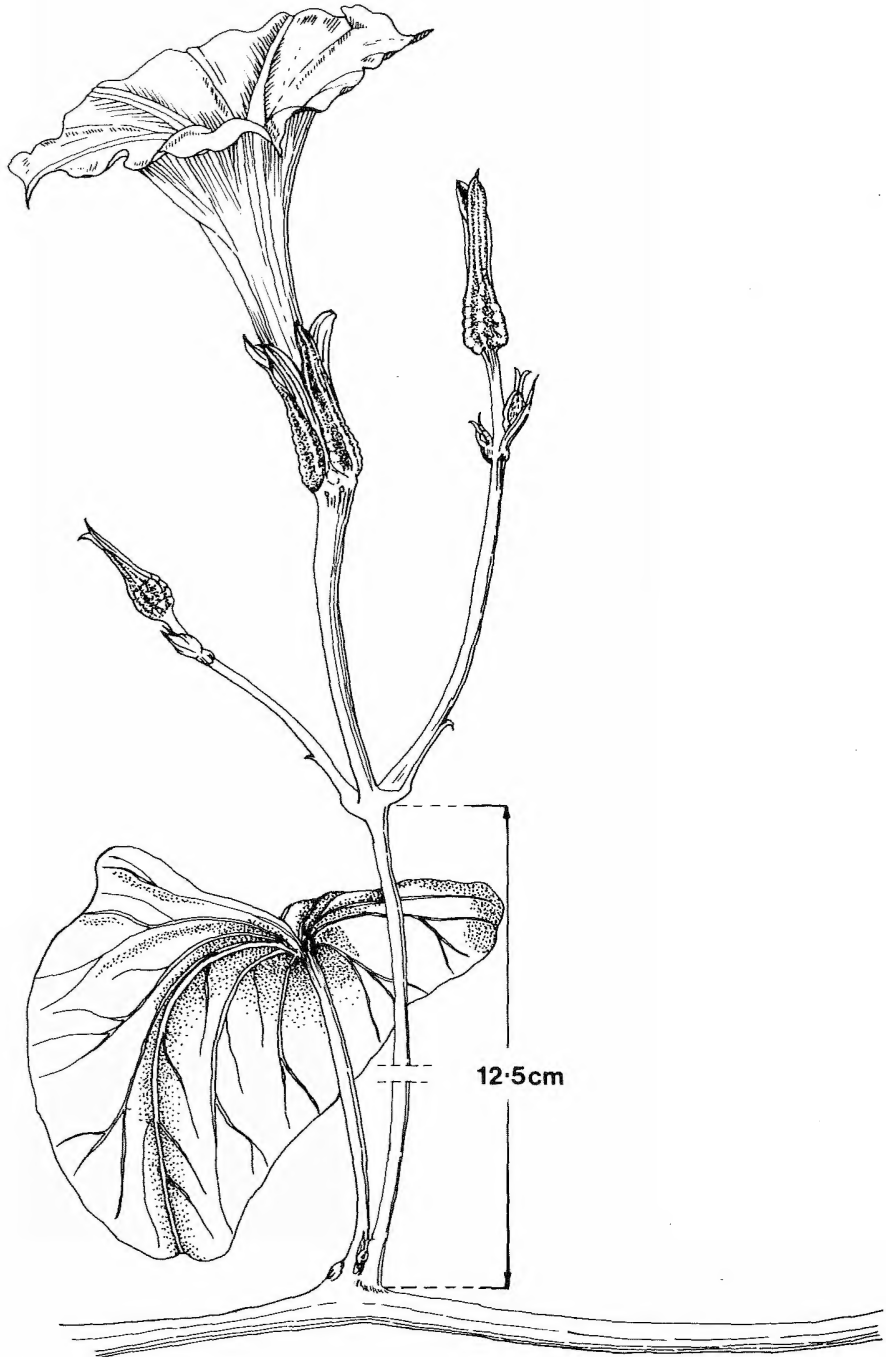


Fig. 2. *Ipomoea argillicola*: habit with inflorescence (Calway AQ378848) $\times 1$.

Queensland (all BRI). BURKE DISTRICT: Dagonally, ca 100 km NW of Julia Creek, Apr 1954, *Everist* 5331; Lydia Downs, ca 45 miles [75 km] NW of Maxwellton, Jan 1966, *Pedley* 1965; Sutherland, 45 miles [75 km] NW of Maxwellton, Jan 1966, *Pedley* 1950; near Ranmoor, 35 km N of Richmond, no date, *Byrnes* 3065; Hughenden, Apr 1971, *Birch* 71/77; Richmond, Nov 1928, *Pollock* [AQ276632]*; 30 miles [50 km] S of Julia Creek, Mar 1959, *Sillar* 3. MITCHELL DISTRICT: Kalleroo Station, near Prairie, Feb 1980, *Byrnes* 3944; 22 km NNE of Blackall on Jerico Rd, Apr 1981, *Wilson* 3502; *Payne*, 1958, *Mackenzie* [AQ276636]. LEICHHARDT DISTRICT: Wyntoon, 20 miles [33 km] NE of Springsure, Jan 1966, *Smith* [AQ276631]; Burton Downs, May 1978, *Johnson* [AQ266045]; ca 1 mile [1.5 km] W of Emerald, Feb 1960, *Johnson* 1321. Northern Territory: 15 miles [25 km] NW of Alexandra H.S., Mar 1956, *Chippendale* 1949. Cultivated: (from seed collected at Wongan, NW of Longreach) *J. Calway* [AQ378848].

This species occurs on the grey cracking clay soils which form extensive sheets in an area from central Queensland to the Barkly Tableland in the Northern Territory. These clays support Mitchell grass (*Astrebla* spp.) tussock grasslands and wooded downs.

Etymology: The specific epithet refers to the habitat in which this species is found.

***Ipomoea polpha* R.W. Johnson, sp. nov.** **Typus:** Queensland, Cook District: ca 3.5 km N of Walkamin on road to Mareeba, 30 Jan 1980, *J.R. Clarkson* 2754 (holotypus BRI 275448).

Perennis radice tuberanti. Caules repentes, herbacei, glabri. Folia simplicia; lamina ovata ad ovato-lanceolata, obtusa, basi rotundata ad parum cordata, 5–18 cm longa, 3–9 cm lata, sparsim pilosa. Inflorescentia axillaris, cymosa; pedunculi 3–22 cm longi, 1–5-floribus, interdum pluribus; bracteae caducae; pedicelli 10–50 mm longi, glandibus prominentibus distalibus. Sepala exteriora ovata, ± glabra obtusa, mucronata, 10–15 mm longa, 5–8 mm lata, interiora similares sed parum magiore. Corolla infundibuliformis, rubro-purpureus, fauce et taeniis meso-petalinis saturatioribus, 7–8.5 cm longa, limbus 8–9.5 cm latus. Stamina 5; filamentis inaequalia, 20–32 mm longa, 9–10 mm supra basin corollae inserta. Ovarium ovoidium, 2-loculare, stylus ca 4 cm longa. Capsula ovoidea basi styli persistenti, 2-locularis, 15–18 mm alta. Semina 4, glabri vel sparsim pilis, 10–12 mm longi.

Perennial with tuberous root. Stems herbaceous, trailing, glabrous or sparsely hairy. Leaves simple, petiolate; blade ovate to ovate-lanceolate, obtuse, rounded to slightly cordate at the base, 5–18 cm long, 3–9 cm broad, sparsely hairy. Inflorescence axillary, cymose; peduncle 3–22 cm long, bearing 1–5 flowers, occasionally more; bracts caducous; pedicel 10–50 mm long with prominent glands at the distal end. Outer sepals ovate, ± glabrous, obtuse, mucronate, 10–15 mm long, 5–8 mm broad; inner sepals similar and slightly larger. Corolla funnel-shaped, reddish-purple, midpetaline bands and throat darker, 7–8.5 cm long, limb 8–9.5 cm broad. Stamens 5; filaments unequal, 20–32 mm long, affixed 9–10 mm above the base of the corolla. Ovary ovoid, 2-locular; style ± 4 cm long. Capsule ovoid with a persistent style base, 15–18 mm high. Seeds 4, glabrous to sparsely hairy, 10–12 mm long. **Fig. 3.**

Queensland (all BRI). BURKE DISTRICT: Yarramulla, off Hughenden Rd, in 1977, *Mitchell* [AQ228696]. COOK DISTRICT: Bilbohra, Dec 1935, *Flecker* [AQ276641]; St Ronans Station, Mt Garnet, Dec 1960, *Myers* [AQ276639]; Davies Ck, E of Mareeba, Feb 1963, *Wyatt* 22; Davies Ck forestry access rd, 16 km from Mareeba, Mar 1973, *Broadley* [AQ9236]; Price Creek Rd, 40 km W of Mareeba, Apr 1973, *Halfpapp* [AQ9444]; 10 km S of Mareeba, Dec 1973, *Wyatt* [AQ14041]; Jump-up, 20 km S of Mareeba on Atherton rd, Mar 1977, *Henderson* H2460, *Gray* 346; Palm R. on Great Dividing Ra., Feb 1978, *Hinton* 63; ca 3.5 km N of Walkamin on road to Mareeba, Jan 1980, *Clarkson* 2754. NORTH KENNEDY DISTRICT: 4 miles [6.6 km] S of Inkerman, Oct 1968, *Williams* 224; ca 20 km W of Home Hill, Dec 1973, *Wyatt* [AQ14055]; Home Hill–Bowen rd, ca 17 km from Home Hill, Oct 1974, *Moriarty* 1624; N of Cardwell, Jul 1978, *Collet* A4; Meadowbank Station Rd, 3 km from Kennedy Development Rd, Apr 1980, *Williams* 80013; S of Ravenswood, Mar 1981, *Jacks* 3; ca 100 km NW of Greenvale, Jan 1982, *Pedley* 4826.

This species occurs on red volcanic loams, alluvial clays and red earths and clays associated with lateritic residuals. It is found as a trailing vine in grassy *Eucalyptus* woodlands. The aerial parts are of annual duration and die back in the cooler and drier months to a large tuber which sprouts following the onset of the wet season. The tuber was used as a source of food by native Aborigines.

Specimens collected by P.K. Latz, 8252 (S of Tin Fish Well, Stirling Station, N.T., May–Jun 1979) and B.G. Thomson, 511 (Stirling Range, N.T.) from a population in the Northern Territory appear to belong to this species though further investigation may warrant the erection of a taxon of subspecific rank.

*This number refers to the computerised collection number situated in the top righthand corner and/or on the label of specimens housed in the Queensland Herbarium. It is distinct from the BRI number which is a sheet number located in the botton righthand corner.



Fig. 3. *Ipomoea poliflora*: habit with inflorescence (Henderson H2460) $\times 1/2$.

Etymology: The specific epithet is derived from the Greek, polphos indicating the value of this species as a source of food.

Ipomoea saintronanensis R.W. Johnson, sp. nov. affinis *I. macrantha* Roemer et Schultes sed sepalis pubescentibus et semenibus lanatis. **Typus:** Queensland, North Kennedy District: 40 mile scrub, ca 4 km N of Gulf Development Road turnoff on the Kennedy Highway, 21 Feb 1986, J.R. Clarkson 6332 (holotypus BRI 372925, isotypi BRI, CANB, DNA, K, MEL, MO, QRS, PERTH).

Perennis, deciduus. Caules lignei, volubiles, glabri vel laxe villosi. Folia simplicia; lamina late ovata ad fere orbicularis, breviter acuminata, acuta vel obtusa, cordata, 5–21 cm longa, 5–21 cm lata, supra glabrescens, infra tomentosa; petiolus 3–14 cm longus. Inflorescentia axillaris; pedunculus 10–90 mm longus, flore solitario; bracteae caducae; pedicellus 15–30 mm longus, glandibus distalibus. Sepala exteriora concava, ovata ad orbicularia, 25–35 mm longa, tomentosa, interiora amplitudinis similis. Corolla hypocrateriformis, alba ad pallida rosea; 8–12 cm longa, taeniis meso-petalinis sericeis. Stamina 5; filamenta leviter inaequalia, 9–13 cm longa, 20–30 mm supra basin corollae inserta. Ovarium ovoideum, 2-loculare; stylus 12–16 cm longus. Capsula globulosa, glabra, 2-loculare, \pm 17 mm alta. Semina 4, pilis dense lanatis ad 15 mm longis.

Deciduous perennial liana with woody, twining, glabrous or loosely villous stems. Leaves simple, petiolate; blade broadly ovate to almost orbicular, shortly acuminate, acute, cordate at the base, 5–21 cm long, 5–21 cm broad, becoming \pm glabrous above, tomentose beneath; petiole 3–14 cm long. Inflorescence axillary; peduncle 10–90 mm long, bearing 1 flower; bracts caducous; pedicel 15–40 mm long, with glands at the distal end. Outer sepals concave, ovate to orbicular, 25–35 mm long, tomentose, inner sepals of similar size. Corolla salverform, white to pale pink, 8–12 cm long, with silky midpetaline bands. Stamens 5; filaments slightly unequal, 9–13 cm long, attached 20–30 mm above the base of the corolla. Ovary ovoid, 2-locular; style 12–16 cm long. Capsule globular, glabrous, 2-locular, \pm 17 mm high. Seeds 4, densely covered with long wavy hairs to 15 mm long.

Fig. 4.

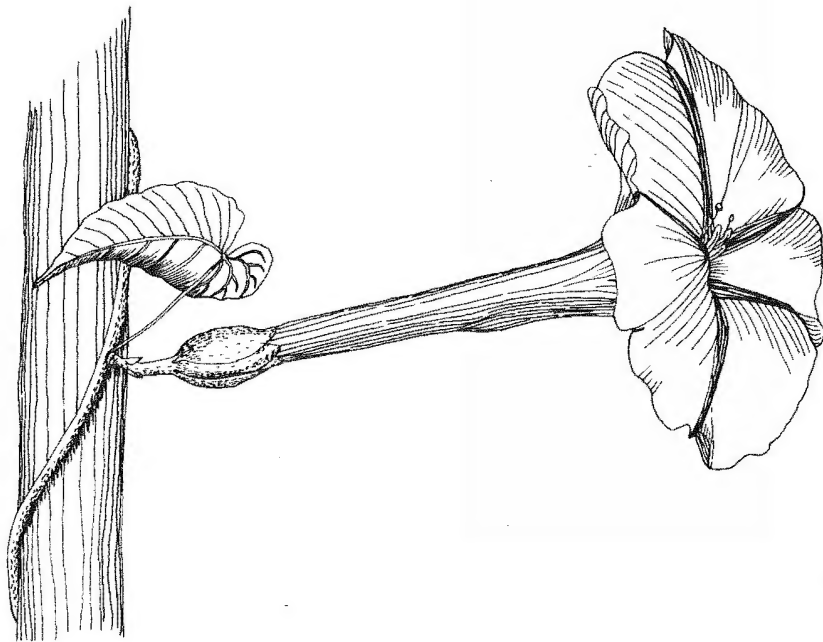


Fig. 4. *Ipomoea saintronanensis*: habit with inflorescence (Gray 300) \times 1/2.

Queensland (all BRI). COOK DISTRICT: St Ronans Station, Dec 1960, *Meyers* [AQ276627]; Lynd scrub, W of Mt Garnet, in 1962, *Webb & Tracey* 7803; dry scrub near Mt Garnet, no date, *Jones* [AQ276628]; Harbour Bridge Cave-Yaramulla Station, Oct 1976, *Williams* 76096; 40 Mile Scrub, Feb 1977, *Gray* 300, Aug 1979, *Clarkson & Byrnes* 2523, Feb 1986, *Clarkson* 6332; 40 Mile Scrub National Park, Feb 1979, *Godwin* [AQ291837].

This species is currently known only from deciduous vine thickets, south-west of Mt Garnet. These thickets are mainly restricted to basaltic soils. This species is adequately conserved within the 40 Mile Scrub National Park.

Etymology: The specific epithet is derived from the name of a grazing property, St Ronans, from which this species has been collected. The final 's' of the place name has been deliberately omitted to assist pronunciation.

Acknowledgements

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